

FOR PUBLICATION

UNITED STATES COURT OF APPEALS

FOR THE NINTH CIRCUIT

CHURCHILL COUNTY; CITY OF
FALLON,

Plaintiffs-Appellants,

v.

GALE A. NORTON, in her official

capacity as Secretary of the
Interior;* WILLIAM BETTENBERG, in
his official capacity as Assistant
Director, Office of Policy
Analysis, Department of the
Interior; JEFFREY ZIPPIN, in his
official capacity as Team Leader
Truckee-Carson Coordination
Office, Department of the Interior;
RONALD ANGLIN, in his official
capacity as Refuge manager,
Stillwater National Wildlife
Refuge, Department of the
Interior; MARVIN PLENERT, in his
official capacity as Regional
Director of the U.S. Fish and
Wildlife Service; JOHN DOEBEL, in
his official capacity as Assistant
Regional Director of the U.S. Fish

No. 00-15967

D.C. Nos.

CV-95-N-00724

ECR/RAM

(Base File)

CV-96-N-00146

DWH

CV-96 N-00754

ECR/RAM

(Consolidated
Cases)

ORDER

AMENDING

OPINION AND

DENYING

PETITION FOR

REHEARING AND

REHEARING EN

BANC AND

AMENDED

OPINION

*Gale A. Norton is substituted for her predecessor, Bruce Babbitt, as
Secretary of the Interior. Fed. R. App. P. 43(c)(2).

and Wildlife Service; and ANN
BALL, in her official capacity as
Project Manager of Bureau of
Reclamation Lahontan Basin
Project Office,
Defendants-Appellees.

and

SIERRA PACIFIC POWER COMPANY,
Defendant-Intervenor.

Appeal from the United States District Court
for the District of Nevada
Edward C. Reed, District Judge, Presiding

Argued and Submitted
January 11, 2001--San Francisco, California

Filed December 19, 2001
Amended March 11, 2002

Before: Joseph T. Sneed, Susan P. Graber, and
Richard A. Paez, Circuit Judges.

Opinion by Judge Paez;
Concurring Opinion by Judge Sneed

COUNSEL

Antonio Rossmann (argued), Roger B. Moore, Law Offices of Antonio Rossmann, San Francisco, California; Michael F. Mackedon, Steven D. King, City of Fallon, Nevada; Richard G. Campbell, Ryan Campbell, Reno, Nevada, for the plaintiffs-appellants.

Kathryn E. Kovacs (argued), Lois J. Schiffer, Sean H. Donahue, Fred R. Disheroon, Stephen M. McFarlane, Appellate Section, Environment & Natural Resources Division, U.S. Department of Justice, Washington, D.C., for the defendants-appellees.

ORDER

The panel has unanimously voted to deny the petition for rehearing. The full court has been advised of the petition for rehearing en banc, and no judge of the court has requested a vote on the petition for rehearing en banc. Fed. R. App. P. 35(b). The petition for rehearing is denied and the petition for rehearing en banc is rejected.

The opinion filed December 19, 2001, is hereby AMENDED as follows:

1. On page 17022 of the slip opinion, in the sentence beginning, "The Secretary withdrew" delete "20,000 acres" and replace with "approximately 200,000 acres."

2. On page 17029 of the slip opinion, the sentence reading,
"For example, Section 204 confirmed a court-ordered allocation between California and Nevada of water from the Carson River, Lake Tahoe, and the Truckee River."
is deleted and replaced with the following two sentences:
"For example, Section 204 confirmed the Alpine Decree, allocating water from the Carson River between California and Nevada. It also allocated water from the Truckee River and Lake Tahoe between the two states."
3. On page 17031 of the slip opinion, the two sentences reading, "The Newlands Project's Operating Criteria and Procedures (OCAP) must be revised. The Section also covers expansion of the Newlands Project purposes to include recreation." are deleted and replaced by the following two sentences: "It expands the authorized purposes of the Newlands Project to include recreation and water quality, among others. The Section also requires the Secretary to study the feasibility of improving the conveyance efficiency of Newlands Project facilities."
4. On page 17036 of the slip opinion, the following two sentences are deleted: "Fallon's underground water rights are served by the Newlands Project. Its municipal water system is served and supplied by wells whose aquifers are recharged through surface irrigation." They are replaced by the following sentence: "Fallon's municipal water system is served and supplied by wells whose aquifers are recharged, at least in part, through surface water diverted through the Newlands Project."

OPINION

PAEZ, Circuit Judge:

For more than a century, myriad interests, from individuals

to power companies to Indian tribes, from federal to state to local governments, have disputed the rights to water from the Truckee and Carson Rivers.¹ Through its enactment of Public Law 101-618, 104 Stat. 3289 (1990), Congress addressed years of legal challenges regarding the over-committed water resources of this region. This action involves Title II of Public Law 101-618 -- the Truckee-Carson Pyramid Lake Water Rights Settlement Act ("Settlement Act"). ² Title II includes a variety of provisions intended to settle disputes over the rights to water from the Truckee and Carson Rivers and to address the environmental effects of overuse. Many of these provisions direct actions involving water allocation and usage in the region.

Section 206(a) of the Settlement Act requires the Secretary of the Interior to acquire sufficient water and water rights from willing sellers to sustain approximately 25,000 acres (on a long-term average) of primary wetland habitat located in the Lahontan Valley of west-central Nevada. The Fish and Wildlife Service ("FWS" or "Service") prepared an Environmental Impact Statement ("EIS") in connection with the implementation of Section 206(a). The Service evaluated five alternative strategies for acquiring water rights and related interests, including a "no action alternative," and selected Alternative 5. Alternative 5 provides for purchases from willing sellers of up to 55,000 acre-feet of water rights in the Carson Division, supplementing water and water rights already acquired under an earlier acquisition effort or to be acquired from other sources, such as the Carson River above the Lahontan Reservoir. In September 1996, the Service published the Final

¹ "Water litigation is a weed that flowers in the arid West." United States v. Orr Water Ditch Co., 256 F.3d 935, 940 (9th Cir. 2001).

² Title I -- the Fallon Paiute-Shoshone Indian Tribes Water Rights Settlement Act of 1990 -- established a \$43 million fund for, among other purposes, the Tribes' economic development and acquisition of land, water rights, or related property interests to consolidate the Tribes' Reservation holdings in exchange for the Tribes' release of all claims against the United States.

Environmental Impact Statement, Water Rights Acquisition for Lahontan Valley Wetlands, Churchill County, Nevada ("WEIS").

Plaintiffs, Churchill County and the City of Fallon, filed separate actions and one joint action asserting claims for violation of the National Environmental Policy Act of 1969 ("NEPA"), 42 U.S.C. §§ 4321-4370f. Plaintiffs contend that (1) the Service violated NEPA by approving land and water rights purchases pursuant to Section 206 of the Settlement Act without first preparing a programmatic EIS analyzing the cumulative and synergistic impacts of the Act's interrelated provisions; and (2) the WEIS, prepared in connection with Section 206, failed to comply with NEPA because Defendants did not adequately assess the cumulative impacts of actions other than wetlands acquisitions, failed to study impacts to groundwater, and failed to define and study a reasonable range of alternatives.

Early in the litigation, the district court granted Defendants' motion for summary judgment on the ground that Plaintiffs lacked standing. We reversed, holding that the County and the City had established standing. Churchill County v. Babbitt, 150 F.3d 1072, 1078 (9th Cir.), amended by 158 F.3d 491 (9th Cir. 1998).

On March 31, 2000, the district court granted Defendants' motion for summary judgment on the programmatic EIS claims, concluding that Sections 205, 206, 207, 209, and 210(b)(16) are not "connected actions" or "related actions" that have cumulative or synergistic impacts. As a result, these other projects and directives did not need to be addressed in a single comprehensive EIS. The court also granted Defendants' cross-motion and denied Plaintiffs' cross-motion on the adequacy of the WEIS, concluding that it satisfied NEPA's procedural requirements by analyzing the potential adverse environmental impacts of implementing Section 206(a) and considering a wide range of reasonable, feasible alternatives.

Plaintiffs timely appealed. We have jurisdiction under 28 U.S.C. § 1291, and we affirm.

I

RELEVANT FACTUAL BACKGROUND

Water has always been scarce in Nevada. Indeed, "Nevada has, on the average, less precipitation than any other State in the Union." Nevada v. United States, 463 U.S. 110, 114 (1983). "Ninety percent of the annual precipitation is lost to evaporation and transpiration, compounding the problems of a naturally short growing season." A. Dan Tarlock, The Creation of New Risk Sharing Water Entitlement Regimes: The Case of the Truckee-Carson Settlement, 25 Ecology L. Q. 674, 677 (1999).

The Carson and Truckee Rivers provide western Nevada with its water supply. The Carson River "rises on the eastern slope of the High Sierra in Alpine County, California, and flows north and northeast over a course of about 170 miles, finally disappearing into Carson sink." Nevada, 463 U.S. at 115. The Truckee River "rises in the High Sierra in Placer County, California, flows into and out of Lake Tahoe, and thence down the eastern slope of the Sierra Nevada mountains. It flows through Reno, Nevada, and after a course of some 120 miles debouches into Pyramid Lake, which has no outlet." Id. at 114; see also S. Rep. No. 101-555, at 8 (1990).

"It has been said that Pyramid Lake is 'widely considered the most beautiful desert lake in North America[and that its] fishery [has] brought it worldwide fame.' " Nevada, 463 U.S. at 114 (citation omitted). The lake and surrounding areas have been the ancestral home of the Pyramid Lake Paiute Tribe for centuries. Two fish species -- the cui-ui (a type of sucker fish found only in Pyramid Lake) and the Lahontan cutthroat trout -- are of great economic, cultural, and spiritual value to the Tribe. E. Leif Reid, Note, Ripples From the Truckee: The

Case for Congressional Apportionment of Disputed Interstate Water Rights, 14 Stan. Envtl. L.J. 145, 149 (Jan. 1995); S. Rep. No. 101-555, at 11. Today, the cui-ui is a federally listed endangered species, and the Lahontan cutthroat trout is listed as threatened.

"[I]n 1859 the Department of the Interior set aside nearly half a million acres in what is now western Nevada as a reservation for the area's Paiute Indians. In 1874 President Ulysses S. Grant by executive order confirmed the withdrawal as the Pyramid Lake Indian Reservation. The Reservation includes Pyramid Lake, the land surrounding it, the lower reaches of the Truckee River, and the bottom land alongside the lower Truckee." Nevada, 463 U.S. at 115.

The City of Fallon is located southeast of the Pyramid Lake Indian Reservation and has a population of 8,300. It is the county seat of Churchill County, whose population is 25,000. Agricultural production has long been an important part of the County's economic base, due in large part to the Newlands Reclamation Project, one of the earliest projects the Bureau of Reclamation built after passage of the Reclamation Act of 1902, Pub. L. No. 57-161, 32 Stat. 388 (1902). S. Rep. No. 101-555, at 10. The Reclamation Act "directed the Secretary of the Interior to withdraw from public entry arid lands in specified western States, reclaim the lands through irrigation projects, and then to restore the lands to entry pursuant to the homestead laws and certain conditions imposed by the Act itself." Nevada, 463 U.S. at 115. The Secretary withdrew from the public domain approximately 200,000 acres in western Nevada, which ultimately became the Newlands Reclamation Project. "The Project was designed to irrigate a substantial area in the vicinity of Fallon, Nevada, with waters from both the Truckee and the Carson Rivers." Id. To divert the water from the Truckee River, the government constructed the Derby Diversion Dam on the lower Truckee and the Truckee Canal. This flow was augmented by water from the

Carson River. Thus, both the Truckee and Carson rivers contributed to the Newlands Reclamation Project.

When Captain John C. Fremont recorded his impressions back in 1844,³ Pyramid Lake was about 50 miles long and 12 miles wide. The lake evaporates approximately four feet -- roughly 440,000 acre-feet -- per year. The Newlands Project has exacerbated the negative effects of evaporation. Between 1925 and 1967, more than 50 percent of the flow of the Truckee River, an average of approximately 260,000 acre-feet per year, was diverted at Derby Dam to the Newlands Project. The level of Pyramid Lake dropped about 40 feet between 1920 and 1938. The combination of evaporation and diversion thus reduced the surface area of the lake by 20,000 acres, forming a delta that prevents the trout and cui-ui from reaching their spawning grounds in the Truckee River. S. Rep. No. 101-555, at 11.

The Newlands Project has also diverted the waters of the Carson River. "Experience in the early days of the Project indicated the necessity of a storage reservoir on the Carson River, and accordingly Lahontan Dam was constructed and Lahontan Reservoir behind that Dam was created." Nevada, 463 U.S. at 116. Several irrigation canals deliver water from the Lahontan Reservoir to farms and ranches in Churchill County. Id. Although the original Newlands Project plan contemplated irrigation of about 200,000 acres, no more than 65,000 acres were irrigated. S. Rep. No. 101-555, at 10.

"The impacts of Newlands Project diversions on the Pyramid Lake fishery triggered protracted and repeated litigation by the Pyramid Lake Paiute Tribe and the United States against the Newlands Project's operator, Truckee-Carson Irrigation District, and virtually every user of Truckee River

³ The Lake "broke upon our eyes like the ocean" and was "set like a gem in the mountains." ¹ The Expeditions of John Charles Fremont 604-05 (1970), quoted in Nevada, 463 U.S. at 114.

water in Nevada and California." Id. at 11. In 1913, the United States filed a complaint in the United States District Court for the District of Nevada, for the benefit of both the Newlands Project and the Pyramid Lake Reservation, to quiet title to Truckee River water rights, beginning what became known as the Orr Ditch litigation. The government named all the water users on the Truckee River as defendants. The parties reached a settlement agreement in 1935. In 1944, the district court adopted the agreement and entered a final decree. Nevada, 463 U.S. at 118.

In 1973, the United States, later joined by the Pyramid Lake Paiute Tribe, sued all those claiming water rights to the Truckee and its Nevada tributaries. In pursuing that action, the plaintiffs sought to obtain more water from the Truckee River for Pyramid Lake and its fisheries. S. Rep. No. 101-555, at 13. The plaintiffs argued that the Orr Ditch decree had not concluded the controversy, but had only quantified the Reservation's right to water for agricultural purposes, not for the Lake and fisheries. Nevada, 463 U.S. at 143-45. The Supreme Court ultimately rejected the plaintiffs' argument.

Carson River water and water rights have been the subject of litigation as well. In 1925, the United States sued to adjudicate the water rights. After years of litigation, the district court entered a final decree in 1980. United States v. Alpine Land & Reservoir Co., 503 F. Supp. 877 (D. Nev. 1980), aff'd, 697 F.2d 851 (9th Cir. 1983), cert. denied, 104 U.S. 863 (1983). Among other things, the Alpine decree quantified individual water rights, established the rights to reservoir storage in the upper Carson River watershed, and provided a starting point for an interstate allocation. S. Rep. No. 101-555, at 19.

In February 1967, "the Secretary of the Interior adopted general operating criteria and procedures [OCAP] to govern the exercise of water rights held by the United States in the Truckee and Carson River systems." S. Rep. No. 101-555, at

14. The criteria were intended to "maximize the use of Carson River waters to meet water requirements on the Newlands Project and conserve Truckee flows so as to make as much water available to Pyramid Lake as possible." Id.; see also 43 C.F.R. § 418.17.

II

THE CURRENT CONTROVERSY

A. The Lahontan Valley Wetlands

For at least 4,000 years, the Lahontan Valley wetlands⁴ have supported a wide diversity of wildlife. The wetlands "provide expansive areas of uniformly shallow wetland habitats with waters of varying salinity." WEIS at 3-58. The wetlands shrink and swell continuously, according to season and over geologic time. "Within the span of one season, these wetlands can transform from shallow lakes with clear, fresh water, to shallow, brackish marshes with high salt concentrations." Id.

Historically, runoff from the Sierra Nevada, via the Carson River, has provided the main inflow of fresh water to the wetlands. Between 40 and 60 percent of the annual flow has come from runoff from April through July, thereby flushing the wetlands of accumulated salts and other dissolved solids. As inflow of water from the Carson River tapered off in summer and as evaporation increased, the wetlands would shrink. Shallower, more saline marsh habitats remained. Id. at 3-59.

These fluctuations in inflow created a variety of habitats and attracted diverse animal species, including ducks, geese, pelicans, wading birds, and shorebirds. Id. at 3-59 to 3-60; S.

⁴ The Lahontan Valley wetlands include the Stillwater Wildlife Management Area, the Stillwater National Wildlife Refuge (located in Churchill County), and the Carson Lake and Pasture.

Rep. No. 101-555, at 16. "Over 410,000 ducks, 28,000 geese and 14,000 swans have been observed using the area annually during wet year spring and fall migrations." S. Rep. No. 101-555, at 16. In addition, "Anaho Island National Wildlife Refuge, located in Pyramid Lake, supports the largest nesting colony of American white pelicans in North America The number of young pelicans produced at Anaho Island dropped from 6,000 in 1987 to 300 in 1989." Id. at 17.

As water upstream from the wetlands was diverted for agricultural purposes, the Stillwater marshes, Carson Lake, and Carson sink largely dried up. "Episodic flooding, which had once sent voluminous springtime flows into the marshes was contained by Lahontan Dam and stored in Lahontan Reservoir for irrigation use." WEIS at 3-60. By 1987, less than 15 percent of the wetlands remained, just 15,000 acres. S. Rep. No. 101-555, at 16. Although the situation has improved somewhat, the Newlands Project is widely acknowledged to have contributed substantially to the loss of wetland acreage by eliminating areas entirely or by intercepting "clean water supplies and substitut[ing] agricultural drainage." Id. Waterfowl still use the remaining wetlands. As the water evaporates, however, "naturally occurring trace elements such as arsenic, boron, lithium, molybdenum, mercury and selenium are becoming concentrated, some reaching toxic levels." Id. No one disputes the fact that the survival of the Lahontan Valley wetlands depends upon significantly increased firm supplies of clean water. In fact, even before passage of the Settlement Act, funds had been appropriated for acquisition of water rights for this purpose. WEIS, at 1-33 to 1-34 ("The Service's Proposed Action and action alternatives would be a continuation of a water rights acquisition program for the Lahontan Valley wetlands which was first initiated by the Service in 1989 under previous appropriations and existing authorities (not Public Law 101-618).").

B. The Settlement Act

"The circumstances behind . . . title [II] are unusually complex, involving interstate water apportionment, management

of Federal water storage and diversion facilities, protection and restoration of wetlands and endangered and threatened fish species, and the settlement of Indian tribal claims to water and other interests." S. Rep. No. 101-555, at 8. In short, Congress recognized that everyone wants and needs the water:

The Truckee is the principal source of water for irrigation, municipal, industrial and domestic uses in the Reno-Sparks metropolitan area and provides water to the Newlands Reclamation Project, near Fallon, Nevada. The Carson River provides water for irrigation and some municipal use in California, and is extensively used for irrigation in Nevada. The Carson is the principal source of water for the Newlands Reclamation Project.

Id. at 9.

United States Senator Harry Reid of Nevada is credited with urging use of a "problemshed" approach regarding the Truckee and Carson basins, "addressing many issues simultaneously, and getting all the key parties that could veto a settlement involved in the negotiating process." Douglas S. Kenney and William B. Lord, Analysis of Institutional Innovation in the Natural Resources and Environmental Realm: the Emergence of Alternative Problem-Solving Strategies in the American West 77-78 (University of Colorado 1999). ⁵ Specifically,

⁵ Senator Reid offered his perspective on the context in which the Settlement Act was enacted in a statement before the Senate Subcommittee on Water and Power of the Senate Energy and Natural Resources Committee:

The negotiations that led to Public Law 101-618 were historic in my state. They brought together a diverse group of interests that had been pitted against each other in the water wars: electrical power, recreationists, environmentalists, an Indian tribe and the business community of the Greater Reno-Sparks area Absent from any real participation in this process were the agri-

the Pyramid Lake Paiute Tribe, Sierra Pacific Power Company (representing the interests of Reno-Sparks), the States of Nevada and California, Truckee-Carson Irrigation District (representing irrigation interests and most water rights holders), and the Department of the Interior were invited to the table. Each participant had a different goal:

The tribe sought increased flows into Pyramid Lake, clear title to the beds and bank of the lake, and funding for fisheries management and habitat restoration. Sierra Pacific was primarily interested in obtaining upriver storage on the Truckee to provide drought protection for Reno-Sparks The states wanted greater certainty in regional allocation matters, something that could be achieved by congressional ratification of the interstate water allocation compact. Parties associated with TCID generally wanted to maintain the status quo and their senior water rights. The federal government presumably sought to honor all federal obligations and protect all federal rights in an efficient manner.

Id. at 78.

cultural water users as represented by the Truckee-Carson Irrigation District. This absence was not because they were not invited to the table, but because they withdrew I note this, Mr. Chairman, because we are now at another crossroads. Agriculture in the Lahontan Valley of northwestern Nevada is an important part of the history of our state. With the growth of Nevada, its overall economic influence has waned, but it is still an economy that I would like to see preserved to the full extent possible I believe that legitimate agricultural needs can be met, but they must be one part of an overall picture, not the sole snapshot.

Newlands Project, Nevada: Hearing Before the Subcomm. on Water and Power of the Senate Comm. on Energy and Natural Res. Comm., 103rd Cong. 461 (Pt. 2)(April 12, 1994).

The final agreement Congress enacted in 1990 set forth the purposes of Title II, the Truckee-Carson Pyramid Lake Water Rights Settlement Act ("Settlement Act"):

- (a) [to] provide for the equitable apportionment of the waters of the Truckee River, Carson River, and Lake Tahoe between the State of California and the State of Nevada;
- (b) [to] authorize modifications to the purposes and operation of certain Federal Reclamation project facilities to provide benefits to fish and wildlife, municipal, industrial, and irrigation users, and recreation;
- (c) [to] authorize acquisition of water rights for fish and wildlife;
- (d) [to] encourage settlement of litigation and claims;
- (e) [to] fulfill Federal trust obligations toward Indian tribes;
- (f) [to] fulfill the goals of the Endangered Species Act by promoting the enhancement and recovery of the Pyramid Lake fishery; and
- (g) [to] protect significant wetlands from further degradation and enhance the habitat of many species of wildlife which depend on those wetlands, and for other purposes.

Settlement Act § 202.

The Settlement Act directed several actions involving water allocation and usage in the region. For example, Section 204 confirmed the Alpine Decree, allocating water from the Car-

son River between California and Nevada. It also allocated water from the Truckee River and Lake Tahoe between the two states. Likewise, pursuant to Section 205, the Secretary of the Interior is required to negotiate with California and Nevada to reach an agreement governing operation of the reservoirs in the Truckee River basin. These negotiations are to culminate in the Truckee River Operating Agreement ("TROA"). The TROA must provide, among other things, for operation of the Truckee River reservoirs to satisfy dam safety and flood control requirements and to enhance the spawning flows available for the Pyramid Lake fishery.

Section 206(a), the section of the Settlement Act in relation to which the WEIS was prepared, "is intended to lay the foundation for the restoration and permanent protection of Great Basin wetland ecosystems in the Lahontan Valley, including the Stillwater National Wildlife Refuge." S. Rep. No. 101-555, at 24. Subsection (a) directs the Secretary to acquire and manage sufficient water and water rights to support 25,000 acres of wetlands. Id. The Secretary is expected to meet this requirement through purchases (only from willing sellers), leases, exchanges, and public and private donations, among other means. Id. at 25. Further, "[t]he Secretary is directed to acquire and use water and water rights in a manner consistent with, among other things, efforts to recover the Pyramid Lake fishery." Id.⁶

⁶ Section 206(b) addresses the Secretary's management of the Stillwater National Wildlife Refuge. Section 206(c) requires the Secretary of the Navy to implement measures to improve the efficiency of water usage at the Naval Air Station in Fallon. Section 206(d) involves cost-sharing between the federal and state governments. Under Section 206(e), the Secretary of the Interior is authorized to convey to the State of Nevada certain federal lands in the "Carson Lake and Pasture " area for Nevada's use as a state wildlife refuge. Section 206(f) established the "Lahontan Valley and Pyramid Lake Fish and Wildlife Fund" to receive specified donations which the Secretary of the Interior could direct toward fish and wildlife programs for Lahontan Valley and to protect the Pyramid Lake fishery. The Act further requires the Secretary to "endeavor to distribute benefits

Section 207 authorizes acquisition of water and water rights for recovery of endangered fish -- the cui-ui and the Lahontan cutthroat trout.

Under Section 209, the Newlands Reclamation Project is targeted for improvement. It expands the authorized purposes of the Newlands Project to include recreation and water quality, among others. The Section also requires the Secretary to study the feasibility of improving the conveyance efficiency of Newlands Project facilities.

Groundwater assessment is a key feature of Section 210. The Secretary must, under Section 210(b)(16), assess and remedy significant adverse impacts on domestic groundwater resulting from other provisions of the Settlement Act.

Plaintiffs contend that (1) the Service violated NEPA by approving land and water rights purchases pursuant to Section 206 of the Settlement Act without first preparing a programmatic EIS analyzing the cumulative and synergistic impacts of the Act's interrelated provisions; and (2) the WEIS, prepared in connection with Section 206, failed to comply with NEPA because Defendants did not adequately address the cumulative impacts of actions other than wetlands acquisitions, failed to study impacts to groundwater, and failed to define and study a reasonable range of alternatives.

III

STANDARD OF REVIEW

The district court's order granting or denying a motion for summary judgment is reviewed de novo. Blue Mountains

from this fund on an equal basis between the Pyramid Lake fishery and the Lahontan Valley wetlands," subject to certain exceptions. Finally, Section 206(g) authorizes the Secretary to convey to Nevada or to Churchill County certain federal lands pursuant to appropriate agreements for fish and wildlife and recreation.

Biodiversity Project v. Blackwood, 161 F.3d 1208, 1211 (9th Cir. 1998). NEPA does not contain a separate provision for judicial review; we therefore review an agency's compliance with NEPA under the Administrative Procedure Act ("APA"), 5 U.S.C. § 706(2)(A). N.W. Res. Info. Ctr., Inc. v. Nat'l Marine Fisheries Serv., 56 F.3d 1060, 1066 (9th Cir. 1995). An agency's decision not to prepare an EIS is reviewed under the arbitrary-and-capricious standard. Blue Mountains, 161 F.3d at 1211. We defer to a "fully informed and well-considered" agency decision, but "we need not forgive a 'clear error of judgment.'" Id. (quoting Save the Yaak Comm. v. Block, 840 F.2d 714, 717 (9th Cir. 1988), and Marsh v. Or. Natural Res. Council, 490 U.S. 360, 378 (1989)).

" '[W]hether a particular deficiency, or combination of deficiencies, in an EIS is sufficient to warrant holding it legally inadequate, or constitutes merely a "fly-speck," is essentially a legal question, reviewable de novo.' " N. Alaska Env'tl. Ctr. v. Lujan, 961 F.2d 886, 889 (9th Cir. 1992) (quoting Or. Env'tl. Council v. Kunzman, 817 F.2d 484, 493 (9th Cir. 1987); see also Salmon River Concerned Citizens v. Robertson, 32 F.3d 1346, 1356 (9th Cir. 1994) ("We review the district court's summary judgment that the FEIS is legally adequate under NEPA and the CEQ [Council on Environmental Quality] regulations de novo.").

We apply a "rule of reason" standard when reviewing the adequacy of an agency's EIS. Under this standard, we ask "whether an EIS contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences." Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974). "This standard is not susceptible to refined calibration." California v. Block, 690 F.2d 753, 761 (9th Cir. 1982). Rather, we make "a pragmatic judgment whether the EIS's form, content and preparation foster both informed decision-making and informed public participation." Id. Review under the rule of reason and for abuse of discretion "are essentially the same." Neighbors of Cuddy Mountain v.

United States Forest Serv., 137 F.3d 1372, 1376 (9th Cir. 1998) (citing Marsh, 490 U.S. at 377 n.23).

Our role is to ensure that the agency has taken a "hard look." Or. Natural Res. Council v. Lowe, 109 F.3d 521, 526 (9th Cir. 1997). We are not free to "impose upon the agency [our] own notion of which procedures are 'best' or most likely to further some vague, undefined public good." Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc., 435 U.S. 519, 549 (1978). We must, however, strictly interpret the procedural requirements in NEPA and the CEQ regulations "to the fullest extent possible" consistent with the policies embodied in NEPA. Lathan v. Brinegar, 506 F.2d 677, 687 (9th Cir. 1974) (en banc) (citing 42 U.S.C. § 4332(1)). "[G]rudging, pro forma compliance will not do." Id. at 693.

IV

DISCUSSION

A. NEPA

"NEPA 'is our basic national charter for protection of the environment.' " Blue Mountains, 161 F.3d at 1215 (quoting 40 C.F.R. § 1500.1(a)). The Act requires a federal agency to prepare a detailed EIS for all "major Federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). "Significance" is a function of the context and the "intensity" of the action. 40 C.F.R. § 1508.27.7 As part of an agency's determination of the intensity of the

⁷ NEPA created the CEQ, which promulgated regulations to promote compliance with the "action-forcing" requirements of NEPA § 102(2). 40 C.F.R. § 1500.1. The regulations define the terms of NEPA and set forth the responsibilities of federal agencies. Although initially advisory in nature, the regulations were made binding on the administrative agencies by Executive Order No. 11991, 3 C.F.R. § 124. "CEQ's interpretation of NEPA is entitled to substantial deference." Andrus v. Sierra Club, 442 U.S. 347, 358 (1979).

impact, numerous factors should be considered, including the "[u]nique characteristics of the geographic area such as proximity to . . . prime farmlands, wetlands, . . . or ecologically critical areas." Id. § 1508.27(b)(3). The agency should also consider "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts." Id. § 1508.27(b)(7). The regulation adds that an action is "significant" if "it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts. " Id. (emphasis added).

Title 42 U.S.C. § 4332(2)(C) is "one of the `action-forcing' provisions intended as a directive to `all agencies to assure consideration of the environmental impact of their actions in decisionmaking.'" Kleppe v. Sierra Club, 427 U.S. 390, 409 (1976) (quoting Conference Report on NEPA, 115 Cong. Rec. 40416 (1969)). Compliance with this requirement "ensures that the agency . . . will have available, and will carefully consider, detailed information concerning significant environmental impacts; it also guarantees that the relevant information will be made available to the larger[public] audience." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349 (1989), quoted in Blue Mountains, 161 F.3d at 1212; see also Found. on Econ. Trends v. Heckler, 756 F.2d 143, 147 (D.C. Cir. 1985) ("NEPA's dual mission is thus to generate federal attention to environmental concerns and to reveal that federal consideration for public scrutiny."). NEPA also "emphasizes the importance of coherent and comprehensive up-front environmental analysis to ensure informed decision making to the end that `the agency will not act on incomplete information, only to regret its decision after it is too late to correct.'" Blue Mountains, 161 F.3d at 1216 (quoting Marsh, 490 U.S. at 371).

B. The Proposed Action

In the draft WEIS, the Service proposed acquisition of a permanent and reliable supply of water to provide an average

of 125,000 acre-feet of water annually to sustain 25,000 acres of wetland habitat at four designated primary wetland habitat areas: (1) Stillwater National Wildlife Refuge, (2) Stillwater Wildlife Management Area, (3) Carson Lake, and (4) Fallon Paiute-Shoshone Indian Reservation. In addition to purchasing water rights from willing sellers, the Service considered other methods of acquisition including leasing, donation, transfer, and exchange. The Service concluded that "acquisition of water rights from Newlands Project owners is the most readily available source of water for wetlands maintenance." U.S. Department of the Interior Fish and Wildlife Service, Water Rights Acquisition Program for Pyramid Lake and Lahontan Valley Wetlands, Nevada, Report to the United States Congress, November 1993.

The Service evaluated five alternatives, four "action" alternatives and one "no-action" alternative. On November 4, 1996, the Regional Director for Region I of the Service issued the Record of Decision ("ROD") documenting the decision and rationale for selecting Alternative 5. Under Alternative 5, the Service would supplement drainwater and spill-water by (1) purchasing up to 55,000 acre-feet of water rights in the Carson Division, in addition to the existing water rights acquisition program of 20,000 acre-feet, for a combined total of 75,000 acre-feet; (2) leasing water from water-rights owners as available; (3) purchasing water rights from the Middle Carson River corridor, up-river from the Lahontan Reservoir; (4) using treated sewage effluent as available; (5) using conserved U.S. Navy water as available; and (6) pumping groundwater near the primary wetland areas. The 75,000 acre-feet of water rights included up to 4,000 acre-feet of water rights that might be acquired in trust for tribal wetlands. ROD at 5. The Service explained that Alternative 5 would distribute the impact of acquisitions across a greater area through its reliance on a variety of water sources. Notably, "Alternative 5 will minimize the conversion of irrigated farmland to non-agricultural uses, minimize adverse impacts to agricultural

production and the agricultural economy, and minimize potential impacts to groundwater discharge." ROD at 8.

C. Plaintiffs' Concerns

The City of Fallon operates its own municipal water system and provides domestic, commercial, and industrial water service to its residents. Churchill County residents rely on thousands of wells that tap shallow and intermediate aquifers. Fallon's municipal water system is served and supplied by wells whose aquifers are recharged, at least in part, through surface water diverted through the Newlands Project. The city also owns surface water rights adjudicated under the Orr Ditch and Alpine decrees. Fallon is particularly concerned about the effects that reallocation of water rights under the Settlement Act will have on the city's water supply.

D. Programmatic EIS

Plaintiffs argue that, in refusing to prepare a programmatic EIS, the Department of the Interior and its sub-agencies, notably the Fish and Wildlife Service, violated NEPA's requirement that "[p]roposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement." 40 C.F.R. § 1502.4(a). They maintain that several of the directives contained in the Settlement Act will impose cumulative and synergistic impacts on water allocation and water quality within the Newlands Project and Lahontan Valley. As water supply concerns are at the core of the Settlement Act, they contend, the Department of the Interior was required to assess in a single EIS the combined effects of reallocations away from the Newlands Project (i.e., from Churchill County and Fallon).

Although NEPA does not address the question, the CEQ regulations do call for preparation of a programmatic EIS in appropriate circumstances:

Environmental impact statements may be prepared, and are sometimes required, for broad Federal actions such as the adoption of new agency programs or regulations (§ 1508.18). Agencies shall prepare statements on broad actions so that they are relevant to policy and are timed to coincide with meaningful points in agency planning and decisionmaking.

40 C.F.R. § 1502.4(b). The regulations specify the "Major Federal actions" that are subject to NEPA's EIS requirement. The adoption of programs constitutes one category of "Federal action" and is defined by the regulations as follows: "a group of concerted actions to implement a specific policy or plan; systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive." 40 C.F.R. § 1508.18(b)(3). The regulations suggest that agencies "may find it useful " to evaluate those "broad actions (including proposals by more than one agency)" in one of three possible ways:

- (1) Geographically, including actions occurring in the same general location, such as body of water, region, or metropolitan area.
- (2) Generically, including actions which have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter.
- (3) By stage of technological development including federal or federally assisted research, development or demonstration programs for new technologies which, if applied, could significantly affect the quality of the human environment.

40 C.F.R. § 1502.4(c),

Moreover, through a process called "tiering," agencies can "relate broad and narrow actions and . . . avoid duplication

and delay." Id. § 1502.4(d). Tiering enables an agency to cover

general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses (such as regional or basinwide program statements or ultimately site-specific statements) incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared.

Id. § 1508.28. The regulation endorses tiering when the agency moves from the general to the specific or from the specific to a supplement. Id.

In Kleppe v. Sierra Club, 427 U.S. 390, 409 (1976), the Supreme Court acknowledged that NEPA may require a "comprehensive" EIS "in certain situations where several proposed actions are pending at the same time." In Kleppe, several environmental organizations sued the Department of the Interior for failing to prepare a programmatic EIS on coal mining-related actions such as issuing coal leases, approving mining plans, and otherwise enabling private companies and public utilities to develop coal reserves on federally owned or controlled land located in the North Great Plains region.⁸ The Department of the Interior had prepared a programmatic EIS on the entire proposed national coal-leasing program and had prepared EISs for individual actions in the region, including approval of mining plans and issuance of right-of-way permits. Plaintiffs maintained that NEPA required a comprehensive EIS for the region before officials could allow further development. Id. at 395.

⁸ Plaintiffs identified the region as encompassing portions of four states: northeastern Wyoming, eastern Montana, western North Dakota, and western South Dakota. 427 U.S. at 396.

The Court held that § 102(2)(C) of NEPA did not require a regional EIS in the absence of a proposal for action of regional scope. Id. at 399. In addition, the Court found that Plaintiffs' "desire for a regional environmental impact statement [could not] be met for practical reasons." Id. at 401. Because a regional proposal would "define fairly precisely the scope and limits of the proposed development," id. at 402, the Court concluded that in the absence of such a proposal, "there would be no factual predicate for the production of an environmental impact statement of the type envisioned by NEPA." Id.

Further, the Court held that "[a] court has no authority to . . . determine a point during the germination process of a potential proposal at which an impact statement should be prepared." Id. at 406. A final EIS is required only at the time the agency "makes a recommendation or report on a proposal for federal action." Id. (quoting Aberdeen & Rockfish R.C. v. SCRAP, 422 U.S. 289, 320 (1975)).

Finally, the Court recognized that when several proposals . . . that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental impacts must be considered together." Id. at 410. According to the Court, "[o]nly through comprehensive consideration of pending proposals can the agency evaluate different courses of action." Id. However, the Court stated that the determination of whether cumulative environmental impacts exist so as to require a comprehensive impact statement "is a task assigned to the special competency of the appropriate agencies." Id. at 413-14. Therefore, a party challenging an agency's refusal to prepare a comprehensive EIS must show that the agency acted arbitrarily in making that determination. Id. at 412.

Since Kleppe, numerous litigants have urged courts to require that an agency prepare a programmatic EIS. In Nat'l Wildlife Fed'n v. Appalachian Reg'l Comm'n, 677 F.2d 883,

884 (D.C. Cir. 1981), for example, the court addressed whether NEPA required a programmatic EIS "for an ongoing, but mostly completed, federally assisted highway development project." In that case, a number of highways still needed to be built to finish the Appalachian system, but the court noted that these fragments "only fill in disjointed gaps left in a highway network thoroughly defined now by old roads in place plus new roads already completed or under construction." Id. at 887. Although site-specific EISs were planned for most of the remaining roads, the plaintiffs sought to require the defendant to first prepare a programmatic EIS for the entire project.

The D.C. Circuit noted that a "multi-phase federal program like a major highway development is a probable candidate for a programmatic EIS," as the CEQ guidelines confirmed. Id. at 888. Reviewing whether an "agency's environmental vision" was arbitrary or capricious, the court listed two inquiries that were particularly helpful in the analysis: "(a) Could the programmatic EIS be sufficiently forward looking to contribute to the decisionmakers' basic planning of the overall program? and, (b) Does the decisionmaker purport to 'segment' the overall program, thereby unreasonably constricting the scope of primordial environmental evaluation?" Id. at 889; see also Heckler, 756 F.2d at 159 ("[A] programmatic EIS should be prepared if it can be forward-looking and if its absence will obstruct environmental review."). NEPA does not require an EIS to supply an after-the-fact justification for a project. NEPA does prohibit an agency from breaking up a "large or cumulative project into smaller components in order to avoid designating the project a major federal action." Nat'l Wildlife Fed'n, 677 F.2d at 890 (citation and internal quotation marks omitted). The court explained that an agency could not escape the existence of a comprehensive program with cumulative environmental effects by "disingenuously describing it as only an amalgamation of unrelated smaller projects." Id. Decisionmakers could, however, reduce "a once vast and variegated program" to "a few uncompleted, smaller-scale

enterprises." Id. The court found a programmatic EIS unnecessary given the reality of the existing 1700 miles of decentralized highway construction in Appalachia and the absence of any indication of arbitrary action in using site-specific EISs for the remaining projects. Id. at 891-92.

In Thomas v. Peterson, 753 F.2d 754 (9th Cir. 1985), we examined the Forest Service's decision not to prepare a comprehensive EIS analyzing the combined effects of construction of a timber road in a formerly roadless area of the Nez Perce National Forest in Idaho and the resulting timber sales that the road would facilitate. We acknowledged the considerable discretion afforded agencies in defining the scope of an EIS and affirmed NEPA's requirement that an agency consider the effects of several related actions in a single EIS in appropriate circumstances. "Not to require this would permit dividing a project into multiple 'actions,' each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." Id. at 758.

The CEQ regulations require that so-called "connected" or "cumulative" actions be considered in a single EIS. 40 C.F.R. § 1508.25(a)(1), (a)(2); cf. City of Tenakee Springs v. Block, 778 F.2d 1402, 1407 (9th Cir. 1985) ("Where there are large-scale plans for regional development, NEPA requires both a programmatic and a site-specific EIS. 40 C.F.R. § 1508.28, 1502.20[.]") (additional citations omitted). Plaintiffs here do not argue that the sections of the Settlement Act regarding water rights, usage, and allocations are "connected" actions within the meaning of the regulations. Rather, they maintain that the actions are "cumulative." Cumulative actions are defined as "actions, which when viewed with other proposed actions have cumulatively significant impacts." 40 C.F.R. § 1508.25(a)(2). A cumulative environmental impact "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency . . . or person undertakes such other actions." 40 C.F.R. § 1508.7. The regulatory defi-

nition includes impacts resulting from "individually minor but collectively significant actions taking place over a period of time." Id.

In Thomas, we found sufficient evidence in the record to suggest that the road and timber sales would have significant cumulative effects, including sediment deposits in the Salmon River (detrimental to fish) and destruction of critical habitat for the endangered Rocky Mountain gray wolf. The Fish and Wildlife Service had submitted comments regarding these impacts to the Forest Service, and we found that the comments raised "substantial questions" about the cumulative effects of the road and timber sales, thus requiring an EIS analyzing the potential impact. Thomas, 753 F.2d at 759. Considering the cumulative effects after the road was already approved, moreover, would not satisfy NEPA. Id. at 760. We also rejected the Forest Service's argument that the timber sales were too uncertain and too far in the future to analyze their impacts together with those of the road. "[I]f the sales are sufficiently certain to justify construction of the road, then they are sufficiently certain for their environmental impacts to be analyzed along with those of the road." Id.

In City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990), we stated that an agency must prepare both a programmatic EIS and a site-specific EIS "[w]here there are large scale plans for regional development." At least when the projects in a particular geographical region are foreseeable and similar, NEPA calls for an examination of their impact in a single EIS. Id. Thus, we held that the Forest Service's failure to analyze the effects of the timber harvesting plans scheduled over the life of the contract between the Forest Service and Alaska Pulp Company raised serious questions about the adequacy of a supplemental EIS.

In this case, Plaintiffs argue that NEPA required the Service to prepare a programmatic EIS "analyzing the Settlement Act components affecting future water allocations to the

Newlands Project." Plaintiffs maintain that Congress's integrated mandate in the Settlement Act constitutes a regional plan addressing the "use of water from two rivers, the Truckee and Carson." S. Rep. No. 101-555, at 8. Plaintiffs are correct; acquisition and allocation of water rights are the core goals of several Settlement Act provisions. The Senate Report states that the Act "concerns the apportionment and use of water from [the Truckee and Carson] rivers. " Id. at 8. The text of the Act, moreover, purports to resolve long-standing issues in this particular region involving this scarce resource. In addition, in 1992, the Special Assistant to the Secretary of the Interior, William Bettenberg, discussed formulating an overall strategy to implement the Settlement Act in a memorandum to the relevant sub-agencies, stating that the "issues are complex and interrelated and in some cases the objectives of the law are at cross purposes with one another and place substantial competing demands on scarce water resources. " Mr. Bettenberg indicated that strategic planning was then feasible because "enough experience has been gained under the Act to appreciate its many nuances." Furthermore, the Fish and Wildlife Service, the Bureau of Indian Affairs, and the Bureau of Reclamation had "built up considerable expertise regarding the law, the water resource situation in the area, and other problems with which we must deal."

The Pyramid Lake fisheries and Lahontan Valley wetlands both require Newlands Project water. Id. at 10. It is not readily apparent how the Service proposed to get a complete picture of the cumulative environmental impacts without including in its analysis the water-related actions and activities already underway or anticipated. It would seem quite reasonable, in fact, for the responsible agencies to analyze the actions required under the Settlement Act and their cumulative impacts in one document. Early in the implementation process, the agencies indicated that they would attempt a broad analysis, taking into account those Settlement Act directives aimed at water usage. Ultimately, however, they

rejected this approach. The Service offers several arguments in support of its course of action.

The Service contends that it did not prepare a programmatic EIS because it had no obligation under NEPA to do so. None of the actions contemplated under sections 205, 207, and 209 of the Act had ripened into "proposals. " As Plaintiffs respond, however, the regulations do not require a final proposal. Rather, under 40 C.F.R. § 1508.23, a proposal "exists at that stage in the development of an action when an agency subject to the Act has a goal and is actively preparing to make a decision on one or more alternative means of accomplishing that goal" so that "the effects can be meaningfully evaluated." (Emphasis added.) "Reasonable forecasting and speculation is thus implicit in NEPA . . ." City of Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 1975). Indeed, NEPA requires that the agency evaluate a project's environmental consequences early in the planning process. Friends of the Earth, Inc. v. Coleman, 518 F.2d 323, 327 (9th Cir. 1975). "This requirement is tempered, though, by the statutory command that we focus upon a proposal's parameters as the agency defines them." Block, 690 F.2d at 761 (citing Kleppe, 427 U.S. at 406-07). It simply makes sense to "defer detailed analysis until a concrete development proposal crystallizes the dimensions of a project's probable environmental consequences." Id.

Plaintiffs further maintain that a number of the actions contemplated under the Settlement Act had matured into "proposals." For example, in 1995, the Department of the Interior published a Notice of Intent to Prepare an EIS "on a broad-based water management program." The program was intended to "consolidate three closely related activities contemplated in Public Law 101-618," notably, the wetlands management plan under Section 206(a), recovery of the Pyramid Lake fish under Section 207(a), and modifications to the Newlands Project Operating Criteria and Procedures (OCAP). The Notice cited "an extensive list of proposed and active

Federal and non-Federal projects that may have cumulative impacts," which would also be considered in the EIS, including:

the proposed TROA; a revised O&M agreement; water rights acquisitions to enhance water quality of the lower Truckee River; water rights acquisitions to sustain on a long term average of 25,000 acres of wetlands in Lahontan Valley; interim changes to the existing OCAP for the Newlands Irrigation Project; Lahontan Reservoir storage agreements; a pilot project to acquire Truckee Division water to enhance populations of endangered cui-ui, and any Upper Carson water acquisitions.

The Department itself characterized the actions as proposals. As Plaintiffs note, the Department has called the TROA a proposal since at least 1996, despite delays in producing the EIS. In short, Plaintiffs have submitted sufficient evidence to show that many of the actions required under the Settlement Act met NEPA's definition of a proposal. Defendants' contention that it was not obligated to prepare a programmatic EIS because other projects required by the Settlement Act were not sufficiently definite to permit meaningful review is unpersuasive.

But whether or not the actions and activities anticipated as a result of the Settlement Act were "proposals " is somewhat off-point. Plainly, the officials responsible for implementing the Settlement Act believed for at least several years that it made good sense to analyze several provisions of the Act as a whole, especially the sections requiring water rights acquisitions and allocations. It also appears that a programmatic EIS was the vehicle for the analysis. It is just as evident that the officials changed their minds. Defendants offer many reasons why NEPA did not require them to proceed by way of a programmatic EIS, many of which Plaintiffs adeptly refute. The regulations and case law would support a decision

by the Service to prepare a programmatic EIS, had it decided to prepare one. Indeed, had we been charged with the decision, we may have elected to prepare a programmatic EIS first. The problem, of course, is that it was not our decision to make.

Although we can see that the Service's decision was a close call, the record does not support a conclusion that the agency's goal was to minimize the possible cumulative environmental impacts by segmenting the wetlands water rights acquisition program from the analysis of other foreseeable actions. The Settlement Act is unwieldy and potentially contradictory in its various requirements. In addition, agricultural interests will unavoidably feel much of the impact of the changes that Congress has ordered. We cannot, as Plaintiffs may wish, sanction the use of NEPA's EIS requirements to challenge the policy goals served by the Settlement Act. See, e.g., Metro. Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 777 (1983) ("The political process, and not NEPA, provides the appropriate forum in which to air policy disagreements."). The fact that we might proceed differently does not compel us to order the Service to prepare a programmatic EIS instead of, or along with, the WEIS. We agree with the district court that the Service took a "hard look" and that its decision not to proceed with a programmatic EIS was not arbitrary.

E. Wetlands EIS

Plaintiffs argue that the WEIS failed to assess the cumulative impacts of actions other than the proposed acquisition, failed to address the impacts on groundwater resources adequately, and impermissibly segmented the water rights acquisitions for the Stillwater wetlands from the conservation plan for managing the wetlands.

1. Cumulative Impacts

Plaintiffs argue that the Service failed to analyze the cumulative impacts of Section 206 acquisitions together with all the other reasonably foreseeable Settlement Act actions affecting allocations for the Newlands Reclamation Project and the wetlands. According to Plaintiffs, the purchase of water rights for Pyramid Lake fish, recoupment, the TROA, and OCAP revisions are among the actions that should have been assessed cumulatively. Plaintiffs contend that the lengthy list of impacts provided by the Service cannot substitute for the required analysis. For example, the Service failed to state the full amount of agricultural land that would be lost upon implementation of all relevant Settlement Act provisions, not just Section 206(a). The magnitude of combined potential agricultural losses, according to Plaintiffs, would be "staggering." The WEIS also failed to quantify the cumulative effects of acquisitions for the wetlands and for cui-ui recovery. As for the TROA, Plaintiffs maintain that the WEIS did not address the foreseeable negative impacts on the cui-ui, which may well prompt acquisition of more Newlands Project water rights. That fact would likely have significant implications for the wetlands acquisitions.⁹ Plaintiffs further maintain that, while the Service acknowledges that the cumulative effects of implementing the Settlement Act are likely to adversely impact groundwater recharge in the Lahontan Valley, it did not analyze or quantify the extent of the problem.

Defendants must do more than just catalogue "relevant past projects in the area." City of Carmel-by-the-Sea v. United States Dep't of Transp., 123 F.3d 1142, 1160 (9th Cir. 1997), quoted in Muckleshoot Indian Tribe v. United States Forest Serv., 177 F.3d 800, 809-10 (9th Cir. 1999). The EIS "must also include a 'useful analysis of the cumulative impacts of past, present and future projects.'" Id. This means a discus-

⁹ Plaintiffs also complain that the WEIS did not analyze the combined effects of Settlement Act provisions on vegetation and air quality.

sion and an analysis in sufficient detail to assist"the decision-maker in deciding whether, or how, to alter the program to lessen cumulative impacts." Id. Thus, in Muckleshoot, we did not find the "cumulative effects" sections in the EIS to be adequate because they provided only "very broad and general statements devoid of specific, reasoned conclusions. " 177 F.3d at 811. Merely indicating the amount of land to be exchanged, for example, and whether the land would be subject to commercial harvest, followed by an optimistic conclusion fell short of the "useful analysis" we required when the EIS "contain[ed] no evaluation whatsoever of the impact on natural resources of timber harvesting on the lands transferred to Weyerhaeuser," nor any assessment of the impact on surrounding areas of such harvesting. Id.

The Service contends that it did consider the potential loss of Newlands Project land under each of the five alternatives discussed in the WEIS but that to look beyond the acquisition proposal to the cumulative effects on agricultural lands resulting from other Settlement Act actions would be "pure speculation." The Service disputes Plaintiffs' assertions about the potential total amount of agricultural losses, although it does not suggest any alternative estimates. The Service did explain in the WEIS, however, that several forthcoming agreements or actions could possibly make it unnecessary to acquire any Truckee River water rights. Specifically, the Truckee River Water Quality Settlement Agreement, OCAP adjustments, the TROA, and the water rights acquired for the wetlands, individually or in combination, could well reduce the amount of agricultural losses. Under these circumstances and given these uncertainties, we do not find the absence of an estimate of the total reduction in agricultural acreage arbitrary or capricious.

We have reviewed Chapter 4 of the WEIS, in which the Service analyzed the environmental consequences of the action alternatives. The Service first considered the impacts of the alternatives on the Newlands Project operations and infrastructure, water resources, vectors, erosion, agricultural pests,

air quality, wetlands, vegetative communities, fish, birds, agriculture, farmland, the local economy, recreation, population characteristics, land use, land values, property taxes, municipal services, social values, and Indian trust assets and cultural resources. The WEIS then examined the cumulative effects on environmental resources in the study area from past, present, and reasonably foreseeable future actions or activities, including the relevant provisions of the Settlement Act (both Titles I and II). The WEIS identified the following actions or activities: (1) acquisition of water rights for the Fallon Paiute-Shoshone Reservation agricultural lands (Section 102); (2) closure of the TJ Drain (Section 106); (3) negotiation of the TROA (Section 205(a)); (4) the comprehensive management plan for the Stillwater National Wildlife Refuge (Section 206(b)); (5) Fallon Naval Air Station studies of land-management options to reduce water use for aircraft safety purposes (Section 206(c)(3)); (6) transfer of Carson Lake and pasture to the State of Nevada for use as a wildlife refuge (Section 206(e)); (7) recovery plans for endangered and threatened Pyramid Lake fish (Section 207(a)); (8) recoupment of water diverted from the Truckee River in excess of amounts permitted by the OCAP during the period from 1973 to 1987 (Section 209(j)); (9) possible adjustments to the 1988 OCAP (Section 209(j)(2)); (10) the Truckee River Water Quality Settlement Agreement; (11) the expansion of Fallon Naval Air Station as the Navy relocates various operations to this location; (12) the effects of predicted growth and diversification of Churchill County; (13) the effects of the transfer of the Indian Lakes area, consisting of approximately 9,355 acres, to Churchill County and, subsequently, to the City of Fallon (Section 206(g)); (14) acquisition of 20,000 acre-feet of water rights in the Carson Division to the primary wetlands; and (15) agricultural production.

In each of the fifteen subsections identified in the WEIS, the Service discussed the predicted impacts and provided its best assessment of what might happen and how the Service and other agencies would likely respond. In addition, the Ser-

vice summarized the potential cumulative impacts of the above actions and activities if the "preferred alternative" were not selected, then summarized the potential impacts of the actions and activities if the Service adopted the preferred alternative. Under the preferred alternative, the Service predicted that agricultural production would be significantly adversely affected. The Service stated unequivocally in the "Unavoidable Adverse Effects" section that the preferred alternative was expected to cause unavoidable adverse impacts on the agricultural economy, agricultural-dependent wildlife, and "farm preservation values" of community members, ultimately changing the very character of the community with the completion of the water rights acquisition program. In short, the WEIS recognized that agricultural interests would bear the brunt of the Settlement Act directives.

Plaintiffs have pointed out errors and missing information in the WEIS. We could certainly "fly-speck" this chapter of the WEIS and find instances where the inclusion of quantitative data would benefit the Service and the public. As with the programmatic EIS discussed above, if we were preparing the WEIS, we might insist on additional detail. That is not our role, of course. Rather, we review the legal sufficiency of the WEIS. We conclude that the Fish and Wildlife Service has taken the requisite "hard look" at the cumulative environmental impacts of the action alternatives and has not violated NEPA.

2. Impacts on Groundwater Resources

Plaintiffs argue that the WEIS failed to address adequately the impacts that the acquisitions would have on groundwater resources. They contend that the Service relied on studies that either established existing conditions without analyzing the possible impacts or called for additional studies due to incomplete understanding of the hydrologic system. In response to comments on the draft WEIS regarding this analytical deficiency, the Service acknowledged this fact ("[t]he Service

concurs that the existing groundwater reports do identify a need for further study of the groundwater resources") and encouraged "local interests" to support funding the studies that the U.S. Geological Service proposed. WEIS at 6-105.

As the Service notes, the studies on which it relied were not definitive, but it never represented that they were. The studies were sufficient, however, to permit the Service to make a reasoned decision as to which action alternative to select. Notably, the Service reviewed existing studies regarding groundwater aquifers in Churchill County and sponsored new studies of the groundwater in the area. One of these studies (Seiler & Allander) used existing and newly drilled observation wells to locate the principal recharge areas for the shallow groundwater aquifer in Churchill County. As the Service explains, this study enabled it to analyze the acquisitions potential groundwater impacts from different locations in the Carson Division.

The second study, the Maurer Report, developed a conceptual model of the entire groundwater system in the Carson Division and surrounding area. According to the report, the three factors that affected groundwater recharge were the area from which the Service acquires the water rights, seepage from the Newlands Project distribution system, and consumptive use by crops. The Service used Maurer's model to analyze the potential impacts of each of the action alternatives. Recognizing the limits of the study, the Service was nevertheless able to make an informed decision.

Additional studies undoubtedly would fill in relevant details regarding groundwater resources under each of the action alternatives. Nonetheless, the Service relied on current information, not outdated studies or technology. We conclude that the WEIS provides a reasoned analysis of the impacts on groundwater consistent with the requirements under NEPA.

3. "Segmentation"

Plaintiffs argue that the WEIS should have covered the water rights acquisitions for the wetlands together with the conservation plan that dealt with management of the wetlands. According to Plaintiffs, these components were interrelated and segmenting analysis of the environmental impacts was not consistent with NEPA. However, other than list the possible ways that the management plan might affect the water rights acquisition plan, Plaintiffs do not show that the Service acted arbitrarily or capriciously.

AFFIRMED.

SNEED, Circuit Judge, Concurring:

I concur in the result reached by Judges Paez and Graber. I write separately to emphasize the need for a comprehensive resolution of California and Nevada interests in the Truckee and Carson rivers. Such a resolution is the only action that can secure a degree of stability. Repetitive and contentious disagreements over the use of the limited water supply to satisfy various rights, wants, and demands are sure to continue. A comprehensive cumulative impact study, while not legally required in this case, is nonetheless essential given the scarce water supply. One hopes that the Truckee River Operating Agreement, currently under negotiation, will solve the comprehensive allocation of the Truckee River waters.

Despite the well-reasoned majority opinion, the consequence is that a dissatisfaction with the allocation of the water between parties is likely to follow. This may be a situation in which we simply cannot muster the political will to resolve the various claims. Congress noted all too late that "[i]n retrospect, it is clear that the limited benefits of the Truckee River

were promised by the United States to too many interests." S. Rep. No. 101-155 (1990), at 13.

To aid those who might be interested in this disposition, a map of the affected areas is appended.